

WATER

Clean water, without excess bacteria or chemicals, is absolutely essential to public health, but water contamination can happen in many ways. Incorrectly managed septic systems can contaminate surface and ground water supplies. Sewage overflows and spills or wildlife waste can contaminate swimming beaches. Plumbing systems installed improperly may result in cross connections allowing toilet water to flow into drinking water pipes. Stagnant water in bird-baths, buckets, discarded tires, and other containers can harbor the larvae of the mosquitoes that spread West Nile virus. Inadequately maintained spas and pools can spread disease or create the conditions for accidental injury or death. Protecting our water resources is an essential public health service in which Environmental Health plays a critical role.

Drinking water: Much of King County water is received from either the Tolt or Cedar River watersheds or large community wells. However, thousands of county homeowners rely on the 1600 small “Group B” wells for their drinking water. We promote healthy wells by assuring their proper planning, design, and location prior to construction, and consult with well owners to ensure wells remain safe from contaminants. In 2003, we worked on a special project with the Washington Department of Health to complete surveys of “Group A” public water systems (15 or more connections). We surveyed 64 of the “Group A” systems, provided educational material on water system operation, conducted bacteria sampling and conservation, and prepared water system operation plans.

Onsite sewage: Over 115,000 households in King County have an onsite septic system. Onsite septic systems are miniature sewage treatment plants, usually serving one household. The system must function correctly to keep sewage from contaminating ground and surface water and soil. New septic systems are more complex and difficult to install than in years past. As rural and suburban areas are developed, land with soil ideal for onsite septic systems is less available, which complicates design and installation. We approve designs and work with homeowners and professionals to install and maintain systems correctly to prevent failures and to ensure that systems have long lives.

Plumbing: Seasoned plumbers review all new plumbing construction plans and inspect installations before the water can be turned on. When gas is piped into a building, plumbers inspect to ensure that the gas connections are properly installed. Plumbers also visit temporary food establishments at fairs and festivals to ensure that water and gas connections are correctly and safely installed.

Recreation: Our inspectors check all public pools and spas for proper water disinfection and correct water temperature, ensure that gates and other safety equipment are properly working, and verify that safety signs are clearly posted. We also post beach contamination warning signs when tests show unsafe levels of bacteria, often caused by waterfowl waste. Additionally, we distribute newsletters and other educational materials to owners and operators providing reminders and tips to avoid common health and safety problems.

“As a plumbing inspector, I get to meet people from all walks of life – rich and poor, everyone needs plumbing. And the fine craftspeople with incredible designs and installations – when a huge skyscraper goes on line and everything works – that’s very satisfying.”

*Clyde Fane, Senior Plumbing Inspector
Plumbing and Gas Piping Program, 14 years
(30 years in the plumbing business)*





Program Highlight

West Nile virus

By 2003, West Nile virus had spread across the continental United States. Spread by mosquitoes that lay their eggs in water, West Nile virus sickened almost 10,000 people in 2003 and killed over 200. Fortunately, West Nile virus did not arrive in King County in 2003, but we prepared by educating residents to remove artificial mosquito breeding habitat and coordinated the surveillance and control activities of several King County agencies and almost 40 local municipal jurisdictions.

Since crows are an early indicator of West Nile virus, we tracked and mapped dead bird reports and submitted samples for testing. We also produced a video and public service announcements, translated prevention materials into seven languages for print and radio, and held press events and dozens of media interviews.

Quick Facts

- Provided 9,556 plumbing and 6,596 gas piping permits
- Received 1,486 onsite septic system site applications
- Approved 718 as-built designs for onsite septic systems
- Received approximately 400 operation and maintenance reports from licensed maintainers
- Sent out 893 information packets to homeowners with onsite septic systems
- Permitted 2,073 pool and spa facilities
- Inspected over 50 decommissioned wells
- Approved approximately 12 new “Group B” water systems
- Responded to 2,534 calls related to mosquitoes and dead birds and tested 186 birds for West Nile virus

“My science education is put to use everyday. Geology helps me determine soil types. Geography helps me understand the topography and to read site maps. Biology is necessary to understand the use of anaerobic and aerobic bacteria in the system, and I use chemistry to determine the level of treatment needed for the sewage.”

*Jeff Ketchel, Health & Environment Investigator,
Onsite Sewage Program, 10 years*

